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Response of chicken shop retailer on various aspects of marketing of duck meat and egg

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ABSTRACT

A study was conducted in three cities of Odisha on prospects and constraints of ducks meat and egg marketing from the chicken shop retailer. More than 60 % of respondents informed that they are marketing duck meat or egg. From the total retailers interviewed 37.63 % informed about good demand for duck egg and meat in market. Of the total retailer marketing duck meat 24 % informed that demand for duck egg and meat are there but less than chicken. Total of 55.36% informed that irrespective of religion community customers are buying duck meats or egg. Maximum retailers (45.61%) informed that fishy smell is a negative attribute in duck. About 40 % retailers informed that duck meat has no negative attributes. For meat purpose most of the customers prefer to take meat after dressing on weight of meat basis and least on live weight basis. Customers demand is more for Desi ducks. Maximum retailers informed size of duck egg for consumption is not a criteria to purchase duck eggs. Smaller duck size is preferred by maximum % of retailer to keep in their shop. The retailers informed that if the demand is increase and supply of duck egg and live duck provided at their counter at lower rate than chicken; then they will keep duck egg and duck for sale. The study revealed that though limited demand is there in the market for duck meat and egg but many more steps are to be taken to make duck meat and egg available in retail shop, so that the customers may buy the same and the demand of duck meat and egg will increase.

Keywords: Duck egg, duck meat, customers demand, marketing, retailer

1. INTRODUCTION

Duck is the second most important species after chicken being reared for consumption of meat and egg in the country. Availability of live ducks and duck egg for consumption depends upon the rearing by the farmers and their sale in the local market as well as to chicken shop retailers, as there are no specific shops dealing with duck meat and duck egg in the market for the customers without keeping chicken or chicken egg in their shops. Though in chicken the industry is well defined and flow from farmers to customers and many integration or contract farming is in place but in case of duck these are not well defined. Mostly in the city the retailer selling chicken

meat or egg one may find many numbers, however exclusive counter for retailers keeping only duck egg and duck for sale is difficult to get. Few of the retailers dealing with chicken meat and egg also keep duck and duck egg for the limited customers those are interested for the duck meat and egg.

Sometime due to less availability of these birds in the market, the duck meat and egg more costly than chicken. Many literatures on ducks are available on performances and rearing system of ducks in the country Cyriac et al., (2020), Padhi et al., (2021), Padhi et al., (2022), however, report on duck egg and meat marketing system is very limited. Padhi et al., (2023) reported about the perception of consumers towards duck egg consumption and few negatives attributes of duck egg as informed by the consumers are documented. In Tamil Nadu Gajendran and Kathiravan, (2008) reported the structure of duck egg and meat marketing system. They reported about five channels through which duck egg are reached to retailer and then to customers.

They also opined that due to imperfection in the marketing system duck raising continue to suffer. In Odisha there are no exclusive retailer shops dealing with duck meat and egg. It is in practice that the farmers rearing duck in their backyard sale the live duck either in the local market or some middle man collect the duck egg and live bird from them and supply to the chicken shop retailer in the city for sale depending upon the demand. So, it is the chicken shop retailers who are the persons can inform many aspects on duck meat and egg marketing, customer’s preferences, consumption and demand. Keeping this in view the present study was initiated to make a survey on duck meat and egg availability, demand and other aspects, through interviewed schedule in three city of Odisha from the retailers dealing with chicken meat and egg.

2. MATERIALS AND METHODS

The study was conducted in three city of Odisha (Bhubaneswar, Cuttack and Puri). A total of 97 chicken shop retailers dealing with chicken meat and egg were surveyed in these three cities. To collect data a pre tested structured interview schedule was developed (Table 1). The responses of the retailers were recorded after interviewing individual retailer on face to face. Randomly retailer shops were visited to collect data. When more numbers of shop are located in a particular place then only few retailers were interviewed as most of the shop owner will give the same information.

It is to mention here that all the retailers were dealing with live birds and no frozen products are kept and even they do not have that facility. After collection of data all the information were recorded in a master sheet. Some retailers give different information for the same data and it included in the same and the number accordingly increased along with the frequencies to calculate percentage. Those retailers were not able to give any answer for a particular question then for those parameters the number of respondents changed. Data were analyzed using standard statistical methods to calculate descriptive statistics such as mean, frequencies and percentage as per (Snedecor and Cochran, 1994).

Table 1 Interview Questionnaire

Sl No	Question
1	Is he selling duck meat and or duck egg?
2	If yes average Kg of duck meat sold per week.
3	Average number of duck egg per sold per week
4	How is the market demand for duck meat?
5	How is the market demand for duck egg?
6	What is the preference of duck meat and egg customers for duck meat and/or duck egg
7	Any group /religion /community more preferred for duck meat and egg
8	Any good or bad qualities as reported by customers for duck egg
9	Any good or bad attributes as informed by the customers for duck meat.
10	How he is selling the duck to customers?
11	What breed or type of duck the he usually stock for sale and what

	is the customers preference?
12	Duck egg size most customers like to buy from his shop?
13	What can be done so that demand for duck meat and egg increase and they will happy to keep duck egg and meat more in their counter?

3. RESULTS

The response of the retailers visited and question asked about different aspects of duck meat and egg during marketing are summarized in (Table 2). The demand for duck egg and meat was informed as good by only 37.63 % of retailers indicating that the demand of duck meat and egg was low which needs to be taken care of to increase the demand in the market. More than 60 % of the retailers are dealing with sale of duck egg and meat from the total respondents. This indicates that more retailers were selling duck meat and egg but the demand may be low. The retailers who can able to inform about the kg of duck meat sold per week and number of duck eggs sold to the customers per week were analyses and it was found that on an average 14.46 ± 2.14 kg of duck meat were sold by them per week and 146.94 ± 12.77 duck eggs were sold to the customers.

Table 2 Retailer responses for different aspects of duck meat and egg on marketing.

Sl. No	Particular	Frequency	Percentage (%)
Market demand for duck egg and meat (n=93)			
1	Good	35	37.63
2	Low	28	30.11
3	Nil	30	32.26
Is they selling duck egg (n=93)			
1	Yes	58	62.37
2	no	35	37.63
Is they selling duck meat (n=93)			
1	Yes	56	60.22
2	No	37	39.78
Customers demand for duck meat and egg (n=56)			
1	Equal Demand for both egg and meat	21	38.89
2	Demand for both egg and meat but more for meat	4	7.41
3	Demand for both egg and meat but more for egg	16	29.63
4	Demand for both egg and meat but less than chicken	13	24.07
Any group/religion/community preference for duck egg and meat			
1	All group/religion/community	31	55.36
2	Only Muslim or more Muslim community	10	17.86
3	Bengali community	6	10.71
4	No idea about the customers religion/community	16	28.57
5	Tribal and fisherman community	14	25.00
6	Hindu only	1	1.79

How the retailer selling duck to customers? (n=55)			
1	Only Live bird	21	38.18
2	After dressing by weight of meat	49	89.09
3	Live weight basis	5	9.09
4	Per piece	18	32.73
Breed of duck retailer kept for sale keeping in view to customers demand (n=57)			
1	Khaki	16	28.07
2	Desi	45	78.95
3	White	28	49.12
4	All breed	10	17.54
5	No preference	5	8.77
Duck size preferred by the retailer to keep in their shop (n=55)			
1	Big	14	25.46
2	Small	18	32.73
3	All size	16	29.09
4	Varies time to time and customers to customers	10	18.18
Duck egg size preferred by customers from his shop (n=57)			
1	All size	27	47.37
2	Big size	12	21.05
3	Small size	3	5.26
4	Medium size	3	5.26
5	Size varies time to time and customers to customers	13	22.81

Values in parentheses indicate number of observation.

The customers preference as reported by retailers for duck meat and egg are presented in (Table 2). Maximum % of retailer reported equal demand for duck egg and meat. About 24 % retailers informed that demand for both egg and meat of duck is there but less than chicken. When it was asked if any particular religion or community have special preferences for duck meat and egg maximum response from the retailer was all religion or community (Table 2). This indicates that there is no issue for religion or community for the consumption of duck meat and egg. However, all the retailers are not able to say the religion or community of the people they are selling the duck meat and eggs as retailers do not asked the religion community of the customers only those who know the regular customer able to spell out the religion and community of the customers.

The retailer selling the duck to customers in different forms as informed by then is analysed and maximum retailer informed that they are selling the duck after dressing by weight of meat followed by live bird, per bird and live weight basis (Table 2). Type of duck breeds the retailers use for the stock revealed that the desi duck stocking was more than other breeds. This may be due to availability of Desi ducks in the local areas or in villages compared to exotic Khaki Campbell or White Pekin birds. Smaller % (4.81%) retailer informed that there is no preference of duck breed by customer. When asked about the duck size preferred by the customers smaller size was more in demand. This may the retailers keeping Desi duck which are mostly smaller in size. Duck egg preference as informed by the retailer (Table 2) revealed that size not a concerned but higher % prefers for smaller size. It is to mentioned here that though duck egg size are more than chicken egg and sometimes oversized duck egg may not be liked by the customers.

However, the duck egg size preference varies from customers to customers. As the retailers are selling duck egg and meat as well as chicken egg and meat, they have some idea as freed back received from the customers by them regarding the duck meat and egg positive and negative attributes or quality, these are being summarized in (Table 3). From the table it is evident that along with good quality other attributes like fishy smell, hardness after boiling, medicinal value, more body heat after consumption were reported.

These attributes were sometimes like by the customers but some customers reported fishy smell to the retailer of duck egg compared to chicken egg. The response of the retailers as they heard from the customers about duck meat; maximum % informs no negative attributes of duck meat (Table 3). About 19 % retailers informed that it keeps warm after eating duck meat. Times needed to boil duck meat more than chicken reported by 8.77 % of the respondents.

Table 3 Good or bad attributes of duck egg and meat (n=57)

Sl. No	Particular	Frequency	Percentage (%)
a) Duck egg attributes			
1	Good quality	17	29.83
2	Fishy smell	26	45.61
3	Hardness	3	5.26
4	Medicinal value	4	7.02
5	Warm up/more heat generated after eating	5	8.77
6	No idea	15	26.32
b) Duck meat attributes			
1	Good/no negative attributes	23	40.35
2	Takes more times to boil	5	8.77
3	Keeps body warm after eating	11	19.30
4	Fishy smell	6	10.53
5	Medicinal value	2	3.51
6	Poor taste	2	3.51
7	No idea	16	28.07

Values in parentheses indicate number of observation

Some retailers (3.51) informed that the customers are taking duck meat and egg for medicinal value and they are not hesitant pay more prices to duck egg and meat. Most of the retailers (90%) informed that for duck meat more demand is in winter seasons. The question on how the retailer will keep more duck egg and live duck for meat purpose in their shop for the customers; the response are summarized in (Table 4). Most retailers informed that if supply of duck egg and duck reached in their shop with lower price than chicken then they will keep the same for sale, followed by if the demand by customers increase, they will try to keep the duck egg and meat in their shop. About 16 % informed that the availability of the duck and its egg at right time with them is essential so that they will keep the same in their shop. Some retailers also asked for supply in credit and supply of feed and technical advice to keep the duck in their shop. About 19 % of the retailers informed that customers to be informed/ educated about the good quality of duck egg and meat so that demand will increase and they will keep the duck egg and meat in their shop for sale.

Table 4 How the retailers keep/sale duck egg and meat more (n=97)

Sl. No	Particular	Frequency	Percentage (%)
1	If demand increase	35	37.63
2	Availability of duck egg and duck at right time	15	16.13
3	Supply of duck egg and duck in their shop at lower rate than chicken	39	41.94
4	Supply of duck egg and duck at their shop with credit	7	7.53
5	More duck egg and duck availability, supply of feed and technical advice	4	4.30
6	Customers to be educated for better quality of duck egg and meat	18	19.36

Values in parentheses indicate number of observation

4. DISCUSSION

From the retailers response the results indicate that the demand for duck meat and egg in the market was low this may be due to higher price of duck meat and egg than chicken and low customers base. As informed by the retailers when the market rate of chicken egg cost is Rs. 5/per egg the duck egg cost Rs, 10/ per egg similarly when dressed chicken meat is Rs. 180/- per kg the duck meat is more than Rs. 350/- to Rs. 400/- per kg. Gajendran and Kathiravan, (2008) opined that due to imperfection in the marketing system duck raising continue to suffer. This is in agreement with the present findings as in the three cities that are covered there is no marketing system for duck meat and egg. Religion/community preferring duck egg and meat as revealed from the study majority % customers are religion/community neutral indicating the acceptability of the product.

Desi birds are preferred by maximum consumers may be due to lower body weight of the ducks so low cost. This is the reason retailers want to keep the desi ducks. Duck egg size as revealed from the study bigger size is more preferred. It is to mention here that the cost of conventional meat is rising in the country. So, in near/future the demands for duck egg and meat will increase and may show greater potential for capturing the retail market or for competing with other meat products. The retailers' feedback that customers reporting fishy smell of duck eggs compared to chicken, is valid as reported in literature, Trimethylamine (TMA) is responsible for the fishy odor of duck eggs. The fishy odor of duck eggs was stronger than that of chicken eggs (Li et al., 2019). They also informed that factors such as gender and region may affect the fishy odour perception ability.

This is the reasons in our country some states the people like the duck eggs for this odour where as other may not like the odour. Further, as the size of the duck egg is quite bigger than the chicken egg and after boiling the thick albumen become harder due to larger quantity so may be some customers reported about hardness after boiling to the retailer. More body heat after consumption of duck egg than chicken may be due to larger size egg of duck and more nutrients than a chicken egg making more metabolic body heat after consumption. It is to be mentioned here that the energy content of duck egg is more than the chicken egg on value per 100g (Ismoyowati and Sumarmono, 2019). If one compares the egg size the energy content of duck eggs will be still more as compared to chicken egg which is smaller. Padhi et al., (2023) in a study on consumers perceptions towards duck egg also reported similar negative attributes of duck eggs which is in agreement with the present study.

Keeping warm after eating duck meat may be due to more fat content in duck meat compared to chicken and many people are consuming the duck meat with skin intact. Times needed to boil duck meat more than chicken may be due to age of the birds. Chicken like broiler are sacrificed at lower age where as the desi duck use for meat purpose may be of higher age. Further, many culled duck are also coming to market for sale. Padhi et al., (2023) reported that the slaughter age of male ducks of Kuzi (desi duck of Odisha) at 12 weeks of age as there was no significant gain in body weight after that age. Some retailers informed that the customers are taking duck meat and egg for medicinal value and they are not hesitant pay more prices to duck egg and meat.

This parameter is to be studied in details. The reason for most of the retailers (90%) informed that duck meat is more in demand in winter seasons, may be due to more heat generation by consumption of duck meat compared to chicken. The retailers assumptions and feedback to keep more live duck and duck egg in their shop revealed that there is no robust marketing strategy for duck meat and egg marketing like that of chicken and the demand by the customers are poor. Further, assured supply of duck and duck egg is a problem as there is no organized private duck farm like that of chicken in the region where the study conducted. Gajendran and Kathiravan, (2008) opined that due to imperfection in the marketing system duck raising continue to suffer. This is also hold true for the region where our study conducted.

5. CONCLUSIONS

The study revealed that there exist duck meat and egg market in the region study was conducted. However, some negative attributes for duck eggs consumption needs to be explained to the customers. Availability of duck products in the market at right time is essential so that the demand will increase. Further, duck marketing in Odisha needs many intervention and the customers' needs to be educated about the good qualities of duck egg and meat so that there may be more demand for these product. Though some market is exists in the city for duck meat and its egg but production should be more so that the cost may be reduced and it can be more utilized as a delicacy in the urban and peri urban areas.

Authors' contribution

Padhi MK: Design of the study, preparation of questionnaire, collection of data, analysis of data and preparation of manuscript

Giri SC: Helps in collection of data, interpretation of data and correction of the manuscript

Sahoo SK: Helps in data collection and editing of the manuscript

Informed consent

Not applicable.

Conflicts of interests

The authors declare that there are no conflicts of interests.

Ethical approval

Not applicable.

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Data and materials availability

All data associated with this study are present in the paper.

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